

In re Patent Application of:
ZHANG ET AL.
Serial No. 09/517,648
Filed: March 3, 2000

IN THE CLAIMS

1. (currently amended) An optical component array comprising:
an input transmission line ~~14~~ capable of carrying an optical input signal including a plurality of channels;
a first wavelength selective input filter ~~16~~ optically coupled to the input transmission line, the first wavelength selective input filter configured to optically couple a first segment of the optical input signal to a first optical component ~~17~~, and to optically couple a first remaining portion ~~23~~ of the optical input signal to
a second wavelength selective input filter ~~30~~, the second wavelength selective input filter configured to optically couple a second segment within the first remaining portion of the optical input signal to a second optical component ~~31~~ and to optically couple a second remaining portion ~~171~~ of the optical input signal to a bypass output port ~~172~~;
a bypass input port ~~174~~ optically coupled to a first wavelength selective output filter ~~34~~, the first wavelength selective output filter being configured to optically couple at least an optical signal ~~173~~ from the bypass input port to a second wavelength selective output filter ~~20~~, the second wavelength selective output filter being configured to optically couple at least a modified first segment ~~11~~ from the first optical component and the optical signal from the bypass input port to an output transmission line ~~42~~.
2. (previously presented) The optical component array of claim 1 wherein the bypass input port is optically coupled to the bypass output port with an optical transmission line.

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3. (previously presented) The optical component array of claim 2 wherein a bypass optical amplifier is disposed in an optical path coupling the bypass input port to the bypass output port.

4. (original) The optical component array of claim 1 wherein the first optical component is a first optical amplifier and the second optical component is a second optical amplifier, and at least one of the first optical amplifier and the second optical amplifier includes a center tap output port and a center tap input port.

5. (original) The optical component array of claim 4 further comprising a signal processing module disposed between, and optically coupled to, the center tap input port and the center tap output port.

6. (original) The optical component array of claim 4 further comprising a shunt transmission line disposed between and optically coupled to the center tap input port and the center tap output port.

7. (original) The optical component array of claim 4 wherein the first optical component is selected from the group consisting of an optical amplifier, a multiplexer, a de-multiplexer, a filter, a dispersion compensation module, a cross connection, an ADD/DROP module, an amplitude adjustment module, and a thru line.

8. - 12. (canceled)

13. (currently amended) An expandable optical component array comprising:

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an optical input transmission line ~~14~~ configured to optically couple a plurality of optical channels ~~(λ1, λ2, λ3, . . . , λN)~~ to

an interleaf demultiplexer ~~182~~, the interleaf demultiplexer providing a first subset ~~(λ1, λ3, λ5, . . .)~~ of the plurality of optical channels to a first interleaf demultiplexer output ~~186~~, the first interleaf demultiplexer output being optically coupled to a first optical component sub-array ~~190~~ at

a first wavelength selective input filter ~~16~~, the first wavelength selective input filter optically coupling a first portion ~~(λ1)~~ of the first subset of the plurality of optical channels to

a first optical component ~~17~~, the first optical component being optically coupled to

a first wavelength selective output filter ~~20~~, the first wavelength selective input filter optically coupling a second portion ~~(171)~~ of the first subset of the plurality of optical channels to

a bypass output port ~~172A~~, and the first wavelength selective output filter being configured to optically couple an optical signal ~~173~~ from

a bypass input port ~~174A~~ and optically coupling a modified first portion ~~(λ1')~~ of the first subset of the plurality of optical channels to

a first interleaf multiplexer input ~~187~~, the first interleaf multiplexer input being optically coupled to an optical output transmission line ~~42~~.

14. (currently amended) The expandable optical component array of claim 13 further comprising:

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a second interleaf demultiplexer output ~~189~~ optically coupled to at least a second bypass output port ~~172B~~ and the interleaf demultiplexer; and

a second interleaf multiplexer input ~~189~~ optically coupled to at least a second bypass input port ~~174B~~ and an interleaf multiplexer ~~184~~.

15. (original) The expandable optical component array of claim 13 wherein the first optical component includes center tap ports.

16. (previously presented) The optical component array of claim 1 wherein the bypass output port is an open bypass output port and the bypass input port is an open bypass input port.